

Amendments to the Claims

Please amend the claims as follows:

1-56. (Canceled)

57. (Original) An apparatus for measuring physiological pressure comprising:

a pressure transmitting catheter having a lumen filled with a pressure transmitting medium;

a transducer in communication with the pressure transmitting medium to provide a pressure signal representing variations in the physiological pressure on an electrical wire; signal processing circuitry coupled to the electrical wire to process the pressure signal;

and

a housing holding the signal processing circuitry and the transducer;

wherein the pressure transmitting catheter includes a first layer material surrounding the lumen and at least one additional layer of material surrounding the first layer material, wherein the at least one additional layer of material has at least one material with a different hardness than the first layer of material.

58. (Original) The apparatus of claim 57 wherein the pressure transmitting medium comprises a gel.

59. (Original) The apparatus of claim 57 wherein the pressure transmitting medium comprises a gel and a low-viscosity liquid.

60. (Original) The apparatus of claim 57, wherein the lumen is filled entirely with a pressure transmitting gel.

61. (Original) The apparatus of claim 57 further comprising telemetry circuitry located in the housing and coupled to the signal processing circuitry to provide a telemetry signal representing the pressure signal.

62. (Original) The apparatus of claim 61 wherein the telemetry circuitry transmits the telemetry signal to an external receiver.

63. (Original) The apparatus of claim 57 wherein the apparatus can be employed to measure arterial pressure, venous pressure, pulmonary pressure, bladder pressure, left ventricle pressure, or intracranial pressure.

BT 64. (Currently Amended) An apparatus for measuring physiological pressure comprising:
a pressure transmission catheter having a lumen filled entirely with a pressure transmitting gel and implantable in an area having a physiological pressure;
a transducer in communication with the pressure transmitting gel and coupled to an electrical wire to provide a pressure signal representing variations in the physiologic pressure on the electrical wire;
signal processing circuitry coupled to the electrical wire to receive the pressure signal and provide a signal representing the pressure signal; and
a housing for holding the signal processing circuitry and transducer;
wherein the pressure transmitting catheter includes a first layer material surrounding the lumen and at least one additional layer of material surrounding the first layer material, wherein the at least one additional layer of material has at least one material with a different hardness than the first layer of material.

65. (Canceled)

66. (Original) The apparatus of claim 64, wherein the pressure transmitting catheter is flexible.

67. (Original) The apparatus of claim 64 further comprising telemetry circuitry located in the housing and coupled to the signal processing circuitry to provide a telemetry signal representing the pressure signal.

68. (Original) The apparatus of claim 67 wherein the telemetry circuitry transmits the telemetry signal to an external receiver.

69. (Currently Amended) An apparatus for measuring physiological pressure comprising:
a pressure transmission catheter having a lumen filled with a pressure transmitting medium and implantable in an area having a physiological pressure, the pressure transmission catheter having a multi-durometer construction;

a transducer in communication with the pressure transmitting medium and coupled to an electrical wire for providing a signal representing variations in the physiologic pressure on the electrical wire; and

a connecting catheter carrying the electrical wire to a location remote from the transducer.

70. (Original) The apparatus of claim 69 wherein the pressure transmission catheter has a length short enough to avoid significant head pressure artifact and provide sufficient dynamic response.

71. (Original) The apparatus of claim 69 wherein the length of the pressure transmission catheter is long enough to accommodate surgical limitations and tolerance concerns.

72. (Original) The apparatus of claim 69 wherein the pressure transmission catheter has a length in the range from approximately two millimeters to approximately four centimeters.

73. (Original) The apparatus of claim 69 wherein the pressure transmitting medium comprises a gel.

74. (Original) The apparatus of claim 69 wherein the pressure transmitting medium comprises a gel and a low-viscosity liquid.

75. (Original) The apparatus of claim 69 wherein the pressure transmitting medium comprises a slidable plug and a low-viscosity liquid.

76. (Original) The apparatus of claim 69 wherein the pressure transmitting medium comprises only a gel which fills the entire lumen.

77. (Original) The apparatus of claim 69 wherein the pressure transmitting catheter includes a first layer material surrounding the lumen and at least one additional layer of material surrounding the first layer material, wherein the at least one additional layer of material has at least one material with a different hardness than the first layer of material.

78. (Original) The apparatus of claim 69 further comprising signal processing and telemetry circuitry coupled to the electrical wire to receive the pressure signal and provide a telemetry signal representing the pressure signal.

79. (Original) The apparatus of claim 78, wherein the signal processing and telemetry circuitry transmits the telemetry signal to an external receiver.

80. (Original) The apparatus of claim 78, wherein the signal processing and telemetry circuitry is located within a housing and wherein the housing is remote from the transducer.

81. (Currently Amended) An apparatus for measuring physiological pressure comprising:

a pressure transmission catheter having a lumen filled entirely with a pressure transmitting gel and implantable in an area having a physiological pressure; and

a transducer in communication with the pressure transmitting gel and coupled to an electrical wire to provide a signal on the electrical wire which represents variations in the physiologic pressure;

wherein the pressure transmitting catheter includes a first layer material surrounding the lumen and at least one additional layer of material surrounding the first layer material, wherein the at least one additional layer of material has at least one material with a different hardness than the first layer of material.

82. (Canceled)

83. (Original) The apparatus of claim 81, further comprising signal processing and telemetry circuitry coupled to the electrical wire to receive the pressure signal and provide a telemetry signal representing the pressure signal.

84. (Original) The apparatus of claim 83, further comprising a housing holding the signal processing and telemetry circuitry and transducer.

85. (Original) The apparatus of claim 81, wherein the electrical wire is carried within a connecting catheter carrying the electrical wire to a location remote from the transducer.

B1 86. (Original) The apparatus of claim 85, wherein the pressure transmission catheter has a length short enough to avoid significant head pressure artifact and provide sufficient dynamic response.

87. (Original) The apparatus of claim 85, wherein the pressure transmission catheter has a length in the range from approximately two millimeters to approximately four centimeters.

88. (Original) The apparatus of claim 85, wherein the length of the pressure transmission catheter is long enough to accommodate surgical limitations and tolerance concerns.

89. (Original) The apparatus of claim 85, further comprising signal processing and telemetry circuitry coupled to the electrical wire to receive the pressure signal and provide a telemetry signal representing the pressure signal.

90. (Original) The apparatus of claim 89, wherein the telemetry circuitry transmits the telemetry signal to an external receiver.

B2 91. (New) An apparatus for measuring physiological pressure comprising:
a pressure transmission catheter having a lumen filled with a pressure transmitting medium and implantable in an area having a physiological pressure, wherein the pressure transmitting medium comprises a slidable plug and a low-viscosity liquid;

a transducer in communication with the pressure transmitting medium and coupled to an electrical wire for providing a signal representing variations in the physiologic pressure on the electrical wire; and

a connecting catheter carrying the electrical wire to a location remote from the transducer.

92. (New) The apparatus of claim 91 wherein the pressure transmission catheter has a length in the range from approximately two millimeters to approximately four centimeters.

93. (New) The apparatus of claim 91 further comprising signal processing and telemetry circuitry coupled to the electrical wire to receive the pressure signal and provide a telemetry signal representing the pressure signal.

94. (New) The apparatus of claim 93, wherein the signal processing and telemetry circuitry transmits the telemetry signal to an external receiver.

95. (New) The apparatus of claim 93, wherein the signal processing and telemetry circuitry is located within a housing and wherein the housing is remote from the transducer.

96. (New) An apparatus for measuring physiological pressure comprising:

a pressure transmission catheter having a lumen filled entirely with a pressure transmitting gel and implantable in an area having a physiological pressure;

a transducer in communication with the pressure transmitting gel and coupled to an electrical wire to provide a signal on the electrical wire which represents variations in the physiologic pressure;

signal processing and telemetry circuitry coupled to the electrical wire to receive the pressure signal and provide a telemetry signal representing the pressure signal; and

a housing holding the signal processing and telemetry circuitry and transducer.

97. (New) The apparatus of claim 96, wherein the pressure transmission catheter has a length in the range from approximately two millimeters to approximately four centimeters.

67 98. (New) The apparatus of claim 96, wherein the telemetry circuitry transmits the telemetry signal to an external receiver.
